

REMARKS

Claims 16-22, 25-35, 39 and 40 are pending in the present application. Claims 16, 17, 20, 25, 29, 30, and 33 have been amended. Support for the claim amendments can be found in the specification, *inter alia*, at page 4, lines 27-29, which states: “Furthermore, a separate adjustment apparatus could be provided for the purpose of minimizing the beam offset during rotation of the arrangement.” (emphasis added). See also, page 3, line 25 – page 4, line 6, which states “optical rotation is now performed, namely by means of an optical arrangement for image rotation … with the result that the object itself remains positioned in an unchanged manner.” Dependent claims 17, 20, 25, 30, and 33 were amended for antecedent basis purposes only. Accordingly, applicants respectfully submit that no new matter has been added.

Based on the above amendments and following remarks, applicants respectfully request reconsideration of all outstanding rejections.

Claim Rejections Under 35 U.S.C. § 102(e)

On page 2 of the Final Office Action dated August 23, 2001, claims 29, 30, and 39 were rejected as being anticipated by Yano (USP 5,701,197). Applicants respectfully request reconsideration of the rejection based on the following.

Yano does not disclose “a rotatable optical system for image rotation.” Instead, Yano discloses a pentaprism 12 (see Yano Fig. 1) that is fixed within the confocal unit 2. This pentaprism merely reverses the image into an upright position. See Yano, col. 3, lines 39-40. As this pentaprism is not “rotatable” as claimed in claim 29, Yano cannot anticipate claim 29, or its dependent claims 30 and 39.

Claim Rejections Under 35 U.S.C. § 103

In the August 23, 2001 Office Action, claims 16-18, 20-22, 25, 26, 29-31 and 33-35 were rejected under 35 U.S.C. § 103, as being unpatentable over Horikawa (U.S. Patent No. 4,734,578) in view of Dewald et al. (U.S. Patent No. 5,365,288). Claims 19 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Horikawa in view of Dewald et al. as applied to claims 16-18, 20-22, 25, 29-31 and 33-35, and further in view of Wasmund et al. (U.S. Patent No. 4,181,436). Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of Dewald and further in view of Yano. Claims 28 and 40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of

Dewald et al., and further in view of Kapitza (U.S. Patent No. 5,896,224). Applicants respectfully traverse these rejections for the following reasons.

The cited references fail to teach or suggest “a rotatable optical system for image rotation.” Horikawa teaches a two-dimensional scanning photoelectric microscope and provides a microscope which has paired detectors which can be rotated about the optical axis. This allows free alteration of the orientation of differentiation of the differential observation image (see Abstract, Fig. 4, detectors 35 and 36). Thus, Horikawa does not teach or suggest a rotatable optical system for image rotation disposed in the path of rays of the confocal microscope.

The Dewald reference does not overcome the deficiencies of Horikawa because Dewald fails to teach the claimed rotatable optical system for image rotation and it is unlikely that one skilled in the art would look to a macroscopic projection system to modify a confocal microscope in the manner suggested by the Patent Office. For example, Dewald is not directed to confocal microscopes but instead is directed to light projection systems, such as TV or video systems. As discussed in the second full paragraph of page 2 of the present application, an object of the invention is to permit measurements to be taken at a plurality of angular positions without rotating the object to be measured. In contrast, the Dewald device is not examining or measuring anything but instead is merely projecting an image for a laser video projector. Thus, a person skilled in the art of confocal microscopes would not consider the Dewald reference since neither Horikawa nor Dewald provides any motivation to insert an image mover in the beam path of the confocal microscope. Further, neither reference suggests that an additional positive effect would be achieved by doing so. The macroscopic image mover 10 as taught in the Dewald reference would not be used in the microscope as disclosed in Horikawa.

Furthermore, Horikawa discloses a microscope which has detectors designed with at least one separation wall. The purpose of this detector design is to provide a tool which allows a calculation (mathematical operation; see col. 14, lines 16 to 60) of the detector signals in order to achieve a better resolution. Under this context, a person skilled in the art would not combine the teachings of Horikawa with the teaching of Dewald. The object of the Horikawa disclosure is: “to provide a scanning type microscope which has a high resolution...” (see col. 4 lines 31 to 32). An insertion of an image mover device of Dewald

would not provide a microscope with high resolution. Thus, there is no motivation to incorporate an image moving device as disclosed in Dewald.

For at least these reasons, claims 16-18, 20-22, 25, 26, 29-31 and 33-35 are patentable over the cited references. Concerning Wasmund, Yano, and Kapitza, these references do not overcome the deficiencies of Horikawa/Dewald, as these references do not teach or suggest a rotatable optical system for image rotation disposed in the path of rays of the confocal microscope.

Thus, for at least the reasons mentioned above, applicants respectfully submit the pending claims are allowable.

Conclusion

If applicants have not accounted for any fees required by this Amendment, the Commissioner is hereby authorized to charge to our Deposit Account No. 19-0741. If applicants have not accounted for a required extension of time under 37 C.F.R. § 1.136, that extension is requested and the corresponding fee should be charged to our Deposit Account.

The Examiner should feel free to contact the undersigned at (202) 672-5592, if there is anything the undersigned can do to assist the Examiner or expedite prosecution of the application.

Respectfully submitted,

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Version with Markings to Show Changes Made (Claims)

Marked up rewritten claims:

16. (Thrice Amended) A confocal microscope defining a path of rays and comprising an ocular, a tube lens and [an] a rotatable optical system for image rotation disposed in the path of rays of the confocal microscope, wherein the rotatable optical system is disposed between a scanning lens and a scanning mirror of a laser scanner in the path of rays of the confocal microscope.

17. (Twice Amended) Confocal microscope according to claim 16, wherein the rotatable optical system for image rotation is a prism.

20. (Twice Amended) Confocal microscope according to claim 16, wherein the rotatable optical system for image rotation is a mirror system.

25. (Thrice Amended) Confocal microscope according to claim 16, wherein the rotatable optical system for image rotation serves to rotate all scanning and video images fed through the laser scanner into the microscope.

29. (Twice Amended) A confocal microscope defining a path of rays and comprising:

- a microscope objective;
- an ocular;
- a tube lens; and

[an] a rotatable optical system for image rotation disposed in the path of rays of the microscope, wherein the rotatable optical system is disposed between the tube lens and microscope objective in the path of rays of the confocal microscope.

30. (Amended) Microscope according to claim 29, wherein the rotatable optical system for image rotation is a prism.

33. (Amended) Microscope according to claim 29, wherein the rotatable optical system for image rotation is a mirror system.